

WHAT IS CLAIMED IS:

Claim 1: A semiconductor device having an NMOS and a PMOS, comprising:

each gate electrode of said NMOS and PMOS containing a polycrystalline silicon film formed on a gate insulating film and a metallic nitride film formed on said polycrystalline silicon film;

said polycrystalline silicon film of said NMOS containing a p-type impurity;

said polycrystalline silicon film of said PMOS containing a p-type impurity and an n-type impurity; and

said n-type impurity contained in said polycrystalline silicon film of said NMOS being segregated to a side of an interface of said polycrystalline silicon film and said gate insulating film, and said p-type impurity contained in said NMOS being segregated to a side of an interface of said metallic nitride film and said polycrystalline silicon film.

Claim 2: A semiconductor device as claimed in claim 1, wherein each gate electrode of said NMOS and PMOS contains a metallic film formed on said metallic nitride film.

Claim 3: A semiconductor device as claimed in claim 1, wherein said p-type impurity is boron and said n-type impurity is phosphorus, arsenic or antimony.

Claim 4: A semiconductor device as claimed in claim 2, wherein said p-type impurity is boron and said n-type impurity is phosphorus, arsenic or antimony.

Claim 5: A semiconductor device as claimed in claim 1, wherein said gate insulating film is a silicon oxynitride film.

Claim 6: A semiconductor device as claimed in claim 2, wherein said gate insulating film is a silicon oxynitride film.

Claim 7: A semiconductor device having an NMOS and a PMOS, comprising:

each gate electrode of said NMOS and PMOS containing a polycrystalline silicon film formed on a gate insulating film, a metallic nitride film formed on said polycrystalline silicon film and a metallic film formed on said metallic nitride film;

said polycrystalline silicon film of said PMOS containing a p-type impurity;

said polycrystalline silicon film of said NMOS containing a p-type impurity and an n-type impurity; and

said n-type impurity contained in said polycrystalline silicon film of said NMOS being segregated to a side of an interface of said polycrystalline silicon film and said gate insulating film, and said p-type impurity contained in said NMOS being segregated to a side of an interface of said metallic nitride film and said polycrystalline silicon film.

Claim 8: A semiconductor device as claimed in claim 7, wherein said p-type impurity is boron and said n-type impurity is phosphorus, arsenic or antimony.

Claim 9: A semiconductor device as claimed in claim 7, wherein said gate insulating film is a silicon oxynitride film.

Claim 10: A semiconductor device as claimed in claim 8, wherein said gate insulating film is a silicon oxynitride film.
